C H A P T E R 4

V E S S E L T R A F F I C S A F E T Y

1) TRAFFIC SEPARATION SCHEMES

To increase the safety of navigation, routes incorporating traffic separation lanes have, with the approval of the International Maritime Organization (IMO), been established offshore of California. These routes are known as Traffic Separation Schemes (TSS). The objective of a TSS is to improve the safety of navigation in converging areas, dense traffic areas, or where restricted sea room limits freedom of vessel movement. Rule 10 of the International Regulations for Prevention of Collisions at Sea (1972) makes compulsory the procedures respecting traffic separation schemes. TSSs are illustrated on all current National Ocean Service (NOS) charts. The Coast Guard continually reviews existing and proposed TSSs in its waters. Any changes to the current system will be published in District Eleven Local Notice to Mariners and on nautical charts as soon as practicable.

TRAFFIC SEPARATION SCHEME TERMS

1) Traffic Separation Scheme (TSS) – A routing measure aimed at the separation of opposing streams of traffic by appropriate means and by the establishment of traffic lanes.

2) Traffic lane - An area within defined limits in which one-way traffic is established. Natural obstacles, including those forming separation zones, may constitute a boundary.

3) Separation Zone (or line) - A zone or line separating the traffic lanes in which ships are proceeding in opposite or nearly opposite directions; or separating a traffic lane from the adjacent sea area; or separating traffic lanes designated for particular classes of ships proceeding in the same direction.

4) Precautionary Area - A routing measure comprising an area within defined limits where ships must navigate with particular caution and within which the direction of traffic flow may be recommended.

5) Deep-Water Route - A routing measure primarily intended for use by ships that, because of their draft in relation to the available depth of water in the area concerned, require the use of such a route.

a) LOS ANGELES - LONG BEACH TSS

A revised Traffic Separation Scheme (TSS) has been established in the approaches to the ports of Los Angeles and Long Beach (LA-LB). The TSS consists of a Southern Approach and a Western Approach. The Southern Approach extends from approximately 10 NM east of Catalina Island to the LA-LB Precautionary Area, and consists of a northbound and a southbound traffic lane, separated by a two-mile wide separation zone. The Western Approach extends westward from south of Point Fermin, then northwestward from the vicinity of Point Vicente and joins with the Santa Barbara Channel TSS (described below). The Western approach consists of a Northbound Coastwise traffic lane and a Southbound Coastwise traffic lane separated by a one mile wide separation zone, which expands to two miles wide at Point Vicente. The LA-LB Precautionary Area is a trapezoidal area south of the Federal Breakwater – vessels should navigate with caution and abide by the procedures outlined in Federal Register "Final Rule" dated September 6, 2000, Volume 65, Number 173. Once the Code of Federal Regulations have been updated, refer to 33CFR 167 (summarized in 3. a. below).

NOTE: Mariners are advised that significant modifications have occurred to the approaches to Los Angeles-Long Beach which include the TSS approaches, Precautionary Area, Regulated Navigation Area, and both Pilot Boarding Areas. These changes can be found on Local Notice to Mariners (031-00), and are shown on National Ocean Services Charts 18751, 18749 and 18746, which will be available to the public in February 2001.

b) SANTA BARBARA CHANNEL TSS

An IMO approved TSS has been established in the Santa Barbara Channel. The TSS consists of one-mile wide eastbound and westbound traffic lanes separated by a two-mile wide separation zone. The TSS runs from the vicinity of Point Vicente to the vicinity of Point Arguello.

NOTE: Mariners should be aware that the Santa Barbara Channel TSS now has an 18 nm extension westward beyond Point Conception to Point Arguello, effective as of July 2000. This change can be found on Local Notice to Mariners (023-00) and also in the CFR and the charts listed in paragraph (a) above.

c) OFFSHORE SAN FRANCISCO BAY TSS

An IMO approved TSS has been established offshore of San Francisco. The TSS consists of four sets of lanes: the northern approach lanes which extend south from Point Reyes to the Precautionary Area; the western approach lanes which extend east from south of the Farallon Islands to the Precautionary Area; the southern approach lanes which extend north from a point off Half Moon Bay to the Precautionary Area; and the main ship channel which extends east from the Precautionary Area toward the Golden Gate Bridge. The Precautionary Area is centered at the San Francisco Approach Lighted Horn Buoy "SF" and is approximately 6nm in radius.

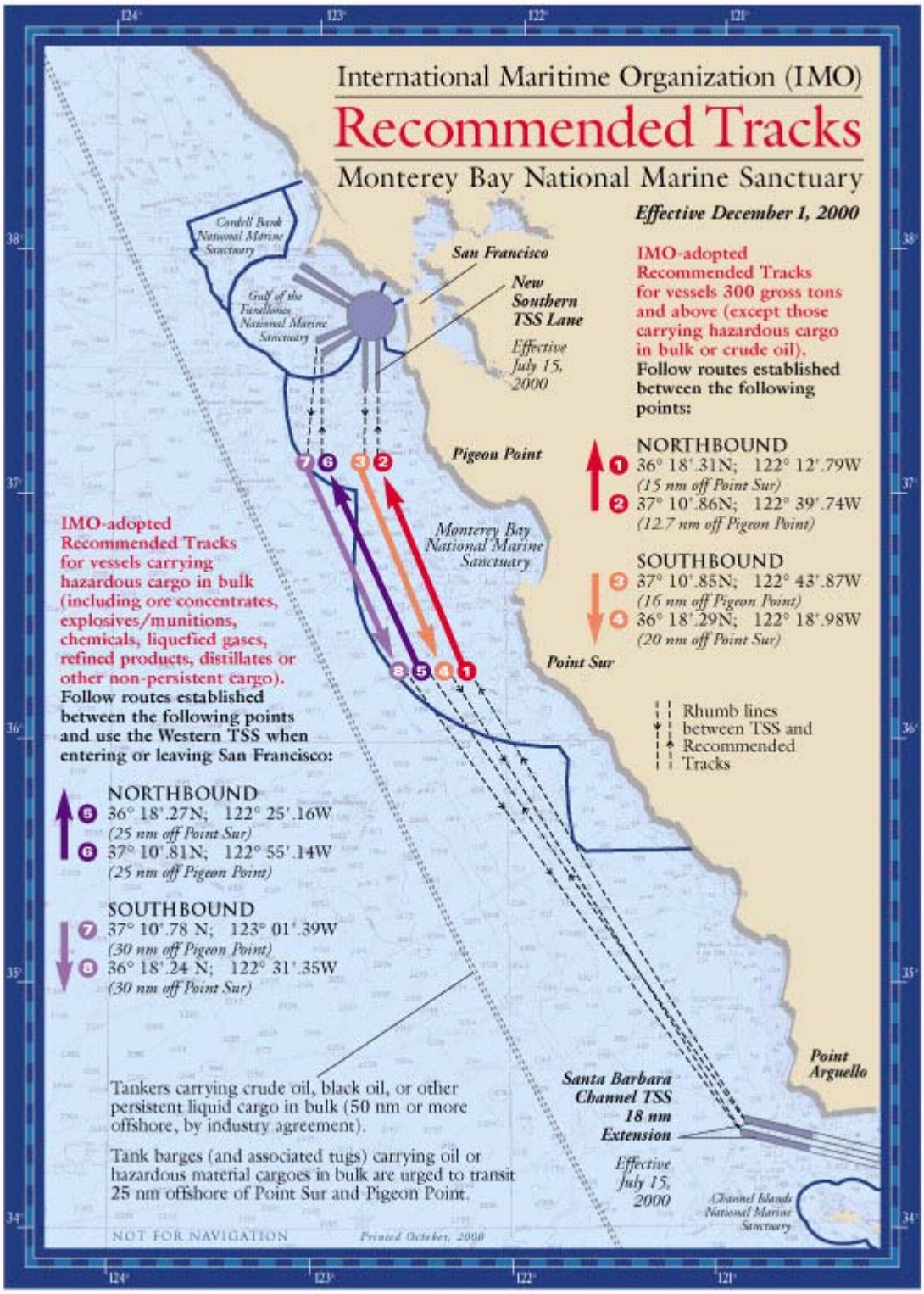
NOTE: Mariners are advised that as of August 2000, the southern approach lanes of the TSS off San Francisco has shifted westward to provide a true north/south alignment. This change can also be found in the publications referenced in paragraph (b) above.

d) IMO RECOMMENDED TRACKS FOR MONTEREY BAY NATIONAL MARINE SANCTUARY

In conjunction with the modification of the San Francisco and Santa Barbara traffic schemes mentioned above, IMO has established Recommended Tracks (effective as of December 1, 2000) to route commercial vessels farther offshore, providing an extra safety margin and environmental protection in the Monterey Bay National Marine Sanctuary and its adjacent waters. The agreement was a collaborative effort of the U.S. Coast Guard, NOAA, other federal, state, and local agencies, shipping industry representatives, and environmental groups. Large Commercial Vessels are recommended to travel 12.7~20 nautical miles offshore and Hazardous Material Ships are recommended to travel 25~30 nautical miles offshore. Tankers loaded with Alaskan crude oil transiting between Alaska and California will remain at least 50 nautical miles from the California mainland under the 1992 Western States Petroleum Association (WSPA) agreement. For more information, contact:

Commander, Unites States Coast Guard, Eleventh District
Aids to Navigation and Waterways Management
Coast Guard Island, Building 50-3
Alameda, CA 94501
Phone: (510) 437-2968

Monterey Bay National Marine Sanctuary
NOAA
299 Foam Street
Monterey, CA 93940
Phone: (831) 647-4201
http://www.mbnms.nos.noaa.gov

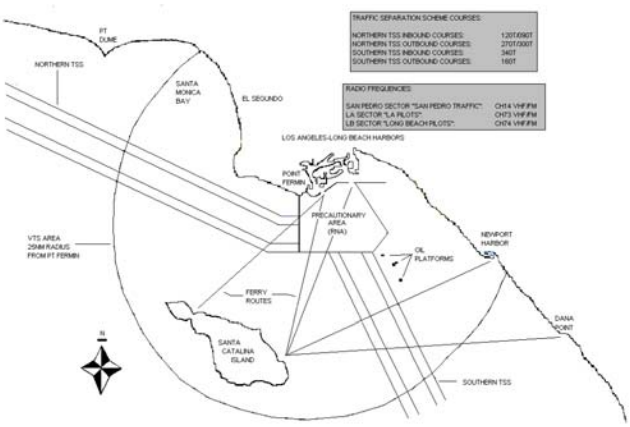

International Maritime Organization (IMO)
Recommended Tracks
Monterey Bay National Marine Sanctuary
Effective December 1, 2000
Cordell Bank National Marine Sanctuary
Gulf of the Farallones National Marine Sanctuary
San Francisco
New Southern TSS Lane
Effective July 15, 2000
Pigeon Point
Monterey Bay National Marine Sanctuary
Point Sur
IMO-adopted Recommended Tracks for vessels 300 gross tons and above (except those carrying hazardous cargo in bulk or crude oil). Follow routes established between the following points:
NORTHBOUND
1 36° 18'.31N; 122° 12'.79W
(15 nm off Point Sur)
2 37° 10'.86N; 122° 39'.74W
(12.7 nm off Pigeon Point)
SOUTHBOUND
3 37° 10'.85N; 122° 43'.87W
(16 nm off Pigeon Point)
4 36° 18'.29N; 122° 18'.98W
(20 nm off Point Sur)
IMO-adopted Recommended Tracks for vessels carrying hazardous cargo in bulk (including ore concentrates, explosives/munitions, chemicals, liquefied gases, refined products, distillates or other non-persistent cargo). Follow routes established between the following points and use the Western TSS when entering or leaving San Francisco:
NORTHBOUND
5 36° 18'.27N; 122° 25'.16W
(25 nm off Point Sur)
6 37° 10'.81N; 122° 55'.14W
(25 nm off Pigeon Point)
SOUTHBOUND
7 37° 10'.78 N; 123° 01'.39W
(30 nm off Pigeon Point)
8 36° 18'.24 N; 122° 31'.35W
(30 nm off Point Sur)
Rhumb lines between TSS and Recommended Tracks
Tankers carrying crude oil, black oil, or other persistent liquid cargo in bulk (50 nm or more offshore, by industry agreement).
Tank barges (and associated tugs) carrying oil or hazardous material cargoes in bulk are urged to transit 25 nm offshore of Point Sur and Pigeon Point.
Point Arguello
Santa Barbara Channel TSS 18 nm Extension
Effective July 15, 2000
Channel Islands National Marine Sanctuary
NOT FOR NAVIGATION
Printed October, 2000
124°
123°
122°
121°
38°
37°
36°
35°
34°

2) VESSEL TRAFFIC SERVICES (VTS)

There are two vessel traffic services (VTS) in the Eleventh District. The purpose of VTS is to facilitate the safe and efficient transit of vessels in an effort to prevent accidents, associated loss of life, damage to property, and harm to the environment. The VTS accomplishes this through monitoring of vessel traffic through radar, video and voice radio reports. The VTS provides information to mariners operating in the VTS area about vessel traffic, hazards to navigation, marine events and other information to increase navigational safety. Below is a brief summary of operating procedures for VTS San Francisco and VTS Los Angeles-Long Beach. More detailed information is available in Federal VTS regulations (33 CFR 161) and in the Users Manual published by each VTS (information below).

a) LOS ANGELES - LONG BEACH VESSEL TRAFFIC SERVICE (VTS LA-LB)

The goal of the Los Angeles-Long Beach Vessel Traffic Service is to provide seamless navigational information to improve vessel transit safety. The Coast Guard/Marine Exchange, Los Angeles Pilots and Long Beach Pilots each specializing in their own area, have worked together to create a unique system. The Vessel Traffic Service is a cooperative effort of the State of California, U.S. Coast Guard, Marine Exchange of Los Angeles-Long Beach Harbor, Inc., Port of Los Angeles and Long Beach.



VTS LA-LB is a vessel traffic monitoring and reporting system within the Los Angeles/Long Beach Harbor and approaches, extending 25 nautical miles seaward of Point Fermin. This system is comprised of three VTS Sectors. Within each Sector is a Vessel Traffic Center (VTC) with watchstanders that monitor and report traffic information and coordinate traffic movements across sector boundaries. Upon entering the VTS San Pedro Sector from sea (at 25nm VTS boundary) and upon entering or departing the Precautionary Area vessels shall contact "**San Pedro Traffic**" on VHF-FM channel 14.

SECTOR	Sector Description	VTC Location	VHF-FM Channel	VTC Voice Call
The **San Pedro Sector**	25 nautical miles from PT Fermin to the federal breakwater	USCG/MX VTS	14	**"San Pedro Traffic"**
The **Los Angeles Sector**	The area inside the federal breakwater encompassing the port of Los Angeles	Los Angeles Harbor Pilot Station	73	**"LA Pilot Station"**
The **Long Beach Sector**	The area inside the federal breakwater encompassing the port of Long Beach	Jacobsen Pilot Station	74	**"Long Beach Pilot Station"**

Under State of California regulations, the following vessels are required to **actively** participate in the VTS in accordance with the LA-LB VTS Users Manual:

-Power driven vessels of 40 meters (approximately 131 feet) or more in length while navigating;
-Commercial towing vessels 8 meters (approximately 26 feet) or more in length that are towing alongside, astern or by pushing ahead;
-Vessel certified to carry 50 or more passengers for hire, while engaged in trade, under sail or power (applies in San Pedro Sector only).

Under State of California regulations, the following vessels are required to **passively** participate in the VTS in accordance with the LA-LB VTS Users Manual:

-Power driven vessels of 20 meters (approximately 65 feet) or more in length while navigating;
-Vessels of 100 gross tons or more carrying one or more passengers for hire, while engaged in trade, regardless of length, or whether under sail or power;
- Every Dredge or floating plant.

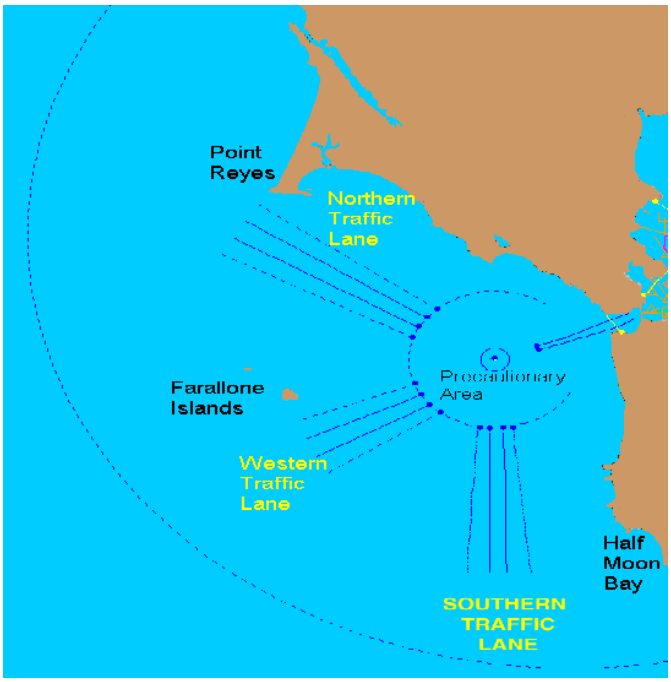
Other vessels that do not fall into the Active or Passive User categories such as, some fishing vessels, yachts, and recreational boats are not required to participate with VTS, but are encouraged and can greatly enhance the safety of navigation in the VTS area by listening to VHF-FM Channel 14 and by maintaining a sharp lookout.

Detailed information on VTS LA-LB operating procedures is available in their Users Manual, available by contacting the VTS or by the web-site listed below:

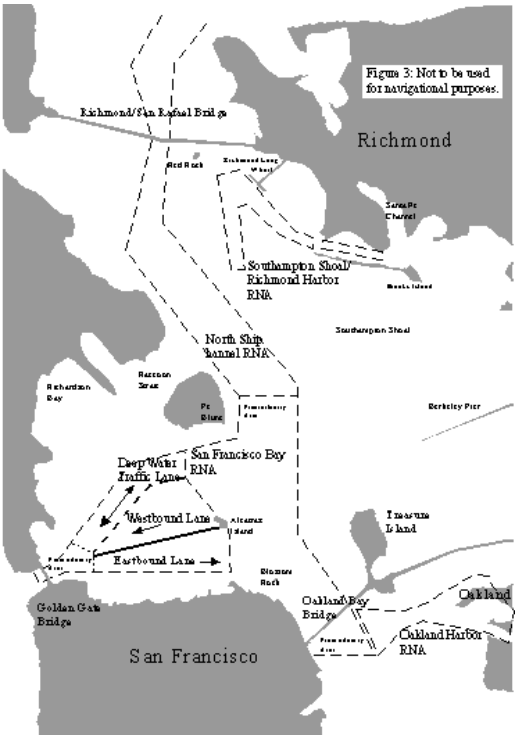
Address: VTS Los Angeles-Long Beach
Marine Exchange of LA/LB
PO Box 1949
San Pedro, CA 90733
Telephone: (310) 832-6411
Fax: (310) 833-7051
World Wide Web: www.marexlalb.org/genmain.htm

b) SAN FRANCISCO VESSEL TRAFFIC SERVICE (VTS SF)

VTS San Francisco covers the waters in the approaches to San Francisco Bay and the inland waters of San Francisco, San Pablo and Suisun Bays as well as the Sacramento and San Joaquin Rivers. The VTS Area is divided into two sectors: offshore and inshore.



The **Offshore Sector** consists of the ocean waters within a 38 nautical mile radius of Mount Tamalpais (37°55.8'N, 122°34.6'W) excluding the San Francisco Offshore Precautionary Area. (The San Francisco Offshore Precautionary Area is the area within a six nautical mile radius of San Francisco Approach Lighted Horn Buoy SF.) Channel 12 VHF-FM is the designated working frequency for the Offshore Sector. At minute 15 and 45 of each hour, VTS makes broadcasts giving the position, courses, and speeds of participating vessels in the sector.



Inshore Sector consists of the waters of the San Francisco Precautionary Area eastward to San Francisco Bay and its tributaries extending inland to the ports of Stockton, Sacramento and Redwood City. Channel 14 VHF-FM is the designated working frequency for the Inshore Sector.

The VTS is designed primarily for use by large vessels subject to the Bridge-to-Bridge Radiotelephone Act as well as vessels carrying passengers for hire. Recreational boaters are **not** encouraged to "check in" to the VTS system. However, recreational boaters are encouraged to keep informed of the movements of ships and tugs throughout the VTS Area by maintaining a listening watch on Channels 12 and 14.
Detailed information on VTS SF operating procedures is available in their Users Manual, available by contacting the VTS:

Address: Commanding Officer
Vessel Traffic Service San Francisco
Yerba Buena Island
San Francisco, CA 94130
Telephone: (415) 556-2950
Fax: (415) 556-6851
World Wide Web: www.uscg.mil/d11/vtssf/

3) REGULATED NAVIGATION AREAS

In order to provide an additional level of safety in certain waterways, the Coast Guard may establish Regulated Navigation Areas. A regulated navigation area (RNA) is a water area within a defined boundary for which regulations for vessels navigating within the area have been established in 33 CFR, Part 165.

a) REGULATED NAVIGATION AREA, SAN PEDRO BAY

There is a Regulated Navigation Area (RNA) in San Pedro Bay designed to enhance safety for vessels entering or departing the ports of Los Angeles and Long Beach. The RNA is described by the following geographic coordinates; From Point Fermin Light (33-42.3 N, 118-17.6 W) thence along the shoreline to the San Pedro Breakwater, thence along the San Pedro Breakwater and the Middle Breakwater (following the COLREGS Demarcation Lines) to Long Beach Channel Entrance Light "2" (33-43.4 N, 118-10.8 W), thence southeast to (33-37.7 N, 118-6.6 W); thence southwesterly to (33-35.5 N, 118-08.8 W); thence west to (33-35.5 N, 118-17.6 W); thence north to point of origin -- [Datum: NAD 1983] and is shown on National Ocean Service Charts 18749 and 18751. There are two pilot areas and one Los Angeles Deep Water Pilot Boarding Area along with one commercial anchorage within the RNA. For more information regarding the RNA and how it affects the mariner, refer to Chapter 2 of Coast Pilot 7, or Federal Register "Final Rule" dated October 10, 2000, Volume 65, Number 202. Once the Code of Federal Regulations have been updated, refer to 33CFR 165.

b) REGULATED NAVIGATION AREAS, SAN FRANCISCO BAY REGION

There are seven Regulated Navigation Areas in the San Francisco Bay Region. These RNAs increase navigational safety by organizing traffic flow patterns; reducing meeting, crossing, and overtaking situations between large vessels in constricted channels; and limiting vessel speed. These RNAs cover the waters of the San Francisco Bay Region eastward of the COLREGS Demarcation line, south of the Oakland Estuary, North to Pinole Shoal Channel Lights 13 and 14, and the area around the main navigational span of the Union Pacific Railroad Bridge in Martinez. Specific wording and geographic boundaries are contained in 33 CFR 165.1114, a copy of which is contained in Chapter 2 of U.S. Coast Pilot 7 and the San Francisco VTS User's Manual. Detailed information on the San Francisco Bay RNAs can be obtained through VTS San Francisco as described in section (2) b above.

The listing of "narrow channel or fairway" areas provided below is not intended to be exhaustive. Rather, it identifies deep draft navigation areas where commercial and public vessels routinely operate and where small craft could unintentionally impede the safe transit of large vessels if care is not exercised. Rule 9 of the Navigation Rules contains provisions that limit the right of way for vessels when encountering vessels constrained by draft.

The "narrow channels or fairways" include:

1) All one-way traffic lanes and precautionary area in the San Francisco Bay eastward of the San Francisco Approach Lighted Horn Buoy SF (LLNR 360);

2) South San Francisco Bay Channels between the termination of the Traffic Separation Scheme in the vicinity of San Francisco Bay South Channel Lighted Buoy 1 (LLNR 4820) and Redwood Creek Entrance Light 2 (LLNR 5180);

3) Redwood Creek between Redwood Creek Entrance Light 2 (LLNR 5180) and Redwood Creek Daybeacon 21 (LLNR 5265);

4) Pinole Shoal Channel in San Pablo Bay between the termination of the Precautionary Area at San Pablo Bay Channel Light 7 (LLNR 5900) and the Carquinez Strait Highway Bridge;

5) Carquinez Strait between the Carquinez Strait Highway Bridge and the Benicia-Martinez Highway Bridge;

6) Suisun Bay Channels between the Benicia-Martinez Highway Bridge and Suisun Bay Light 34 (LLNR 6655);

7) New York Slough between Suisun Bay Light 30 (LLNR 6585) and Point Beenar Daybeacon (LLNR 6660);

8) San Joaquin River from Point Beenar Daybeacon (LLNR 6660) to the Port of Stockton:

9) Sacramento River Deep Water Ship Channel from Suisun Bay Light 34 (LLNR 6655) to the Port of Sacramento;

10) Oakland Outer and Inner Harbor Entrance channels;

11) Alameda Naval Air Station Channel;

12) Southampton Shoal Channel;

13) Richmond Harbor Entrance Channel and the Point Potrero Reach;

14) Mare Island Strait between Mare Island Strait Light 2 (LLNR 6095) and Mare Island Causeway Bridge.

4) LOS ANGELES AND LONG BEACH PILOT AREAS

There are now three pilot areas: one immediately seaward of Angel's Gate for entrance to Los Angeles Harbor, one seaward of Queen's Gate for entrances to Long Beach Harbor, and a new Deep Water Pilot Boarding Area for the Port of Los Angeles. These areas have been designated as Regulated Navigation Areas in 33 CFR 165.1109 and are apparent on the charts 18749 and 18746 as the two magenta bordered areas just outside the breakwater entrances to both ports. The Deep Water Pilot Boarding Area is centered on position 33-39.0 N, 118-13.19 W, approximately 0.5 nm south of the southern terminus of the Los Angeles Channel and is 1.0 nm in diameter. It is prohibited to use either the Los Angeles or Long Beach Approach Buoys located within the pilot boarding areas as turning marks either for sail races or simple day cruises. It is also prohibited to fish or loiter in these regulated areas. In addition to the Regulated Navigation Areas discussed above, the pilot boarding areas are considered "Narrow Channels" for application of Navigation Rule 9.

5) POINT ARGUELLO SHIP TRAFFIC WARNING SYSTEM

A ship traffic warning system has been installed on Texaco's platform Harvest (34°27'19.9"N, 120°48'04.1"W) for the purpose of monitoring vessel traffic and notifying ships of the locations of the Point Arguello drilling platforms at the northern entrance of Santa Barbara Channel. The system is operated jointly by Chevron USA and Texaco USA and covers the three Point Arguello platforms: Harvest (Texaco), Hermosa (Chevron), and Hidalgo (Chevron). The system operates 24 hours a day. Attempts will be made to establish radio communications with all unidentified vessels approaching the Point Arguello platforms. If a vessel does not acknowledge the radio calls from Platform Harvest, an oil spill response vessel, which is permanently stationed in the field, will be dispatched to intercept the approaching vessel and warn it of the location of the platforms. All vessels passing within ten nautical miles of the three Point Arguello Platforms are requested to respond to the radio calls from Platform Harvest and identify themselves.

6) RULES OF THE ROAD ENFORCEMENT

Timely reporting and enforcement of Rules of the Road infractions can promote safer navigation. Vessel masters, pilots, and operators are encouraged to report incidents which merit investigation. Reports should include name, registration, and descriptive information about your vessel and the other vessel; the exact location of the incident; the circumstances of the reported violation; and names and positions of persons/vessels witnessing the incident. Reports should be submitted to the nearest Coast Guard Marine Safety Office listed below:

Commanding Officer
Coast Guard Marine Safety Office
2710 N. Harbor Dr.
San Diego, CA 92101-1064
Phone: (619) 557-5860

Commanding Officer
Coast Guard Marine Safety Office
Group LA-LB
1001 S. Seaside Ave., Bldg 20
San Pedro, CA 90802
Phone: (310) 732-2033

Commanding Officer
Coast Guard Marine Safety Office
Coast Guard Island, Bldg. 14
Alameda, CA 94501-5100
Phone: (510) 437-3073